The Scottish Mathematical Council

www.scot-maths.co.uk

MATHEMATICAL CHALLENGE 2014−2015

Entries must be the unaided efforts of individual pupils.
Solutions must include explanations and answers without explanation will be given no credit.
Do not feel that you must hand in answers to all the questions.

CURRENT AND RECENT SPONSORS OF MATHEMATICAL CHALLENGE ARE
The Edinburgh Mathematical Society, The Maxwell Foundation, Professor L E Fraenkel, The London Mathematical Society and The Scottish International Education Trust.

The Scottish Mathematical Council is indebted to the above for their generous support and gratefully acknowledges financial and other assistance from schools, universities and education authorities.

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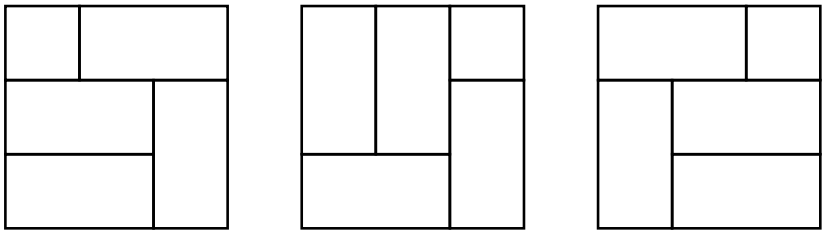
Primary Division: Problems I

P1.1. Chris has found a three-digit number. The number which uses some of the figures 0, l, ..., 9 can be read back to front and upside down but it stays the same.

Find all the possibilities for Chris's number.

P1.2. How many whole numbers between 1 and 1000 do not contain the digit 1?

P1.3.



Three different ways of dividing a 3 × 3 square into one 1 × 1 square and four 2 × 1 rectangles are shown above. How many ways are there in all (including the ones shown above)?

END OF PROBLEM SET I

CLOSING DATE FOR RECEIPT OF SOLUTIONS : 26th September 2014

Look out for Problems II in October!

Look on the SMC web site: www.scot-maths.co.uk for information about Mathematical Challenge.